

CLAIMS

We claim:

1. An amorphous copolyester having an inherent viscosity (IV) of at least about 0.5 dL/g measured at a temperature of 25°C at 0.5 g/dL concentration in a solvent mixture of symmetric tetrachloroethane and phenol having a weight ratio of symmetric tetrachloroethane to phenol of 2:3 comprising:
 - (1) a diacid component comprising about 90 to 100 mole percent terephthalic acid residues and 0 to about 10 mole percent isophthalic acid residues; and
 - (2) a diol component comprising about 10 to about 70 mole percent 1,4-cyclohexanedimethanol residues and about 90 to about 30 mole percent neopentyl glycol residues;wherein the amorphous copolyesters comprises 100 mole percent diacid component and 100 mole percent diol component.
2. The amorphous copolyester of Claim 1 wherein the diacid component (1) consists essentially of about 90 to 100 mole percent terephthalic acid residues and 0 to about 10 mole percent isophthalic acid residues; and the diol component (2) consists essentially of about 10 to about 70 mole percent 1,4-cyclohexanedimethanol residues and about 90 to about 30 mole percent neopentyl glycol residues.
3. The amorphous copolyester of Claim 1 wherein the diacid component consists essentially of at least 95 mole percent terephthalic acid residues.
4. The amorphous copolyester of Claim 1 wherein the diacid component consists essentially of 100 mole percent terephthalic acid residues.
5. The amorphous copolyester of Claim 1 wherein the diol component consists essentially of about 30 to about 70 mole percent 1,4-cyclohexanedimethanol residues and about 70 to about 30 mole percent neopentyl glycol residues.

6. The amorphous copolyester of Claim 1 wherein the diol component consists essentially of about 35 to about 60 mole percent 1,4-cyclohexanedimethanol residues and about 40 to about 65 mole percent neopentyl glycol residues.

7. An amorphous copolyester having an inherent viscosity (IV) of about 0.6 to about 1.1 dL/g measured at a temperature of 25°C at 0.5 g/dL concentration in a solvent mixture of symmetric tetrachloroethane and phenol having a weight ratio of symmetric tetrachloroethane to phenol of 2:3 comprising:

- (1) a diacid component consisting essentially of terephthalic acid residues; and
- (2) a diol component consisting essentially of about 35 to about 60 mole percent 1,4-cyclohexanedimethanol residues and about 40 to about 65 mole percent neopentyl glycol residues;

wherein the amorphous copolyesters comprises 100 mole percent diacid component and 100 mole percent diol component.

8. A shaped article having improved resistance to degradation from exposure to lipids wherein the shaped article is fabricated from an amorphous copolyester having an inherent viscosity (IV) of at least about 0.5 dL/g measured at a temperature of 25°C at 0.5 g/dL concentration in a solvent mixture of symmetric tetrachloroethane and phenol having a weight ratio of symmetric tetrachloroethane to phenol of 2:3 and comprising:

- (1) a diacid component comprising about 90 to 100 mole percent terephthalic acid residues and 0 to about 10 mole percent isophthalic acid residues; and
- (2) a diol component comprising about 10 to about 70 mole percent 1,4-cyclohexanedimethanol residues and about 90 to about 30 mole percent neopentyl glycol residues;

wherein the amorphous copolyesters comprises 100 mole percent diacid component and 100 mole percent diol component.

9. The shaped article of Claim 8 wherein the diacid component (1) consists essentially of about 90 to 100 mole percent terephthalic acid residues and 0 to about 10 mole percent isophthalic acid residues; and the diol component (2) consists essentially of about 10 to about 70 mole percent 1,4-cyclohexanedimethanol residues and about 90 to about 30 mole percent neopentyl glycol residues.
10. The shaped article of Claim 8 wherein the article is fabricated by extrusion blow molding.
11. The shaped article of Claim 8 wherein the diacid component consists essentially of at least 95 mole percent terephthalic acid residues.
12. The shaped article of Claim 8 wherein the diacid component consists essentially of 100 mole percent terephthalic acid residues.
13. The shaped article of Claim 8 wherein the diol component of the amorphous copolyester consists essentially of about 30 to about 70 mole percent 1,4-cyclohexanedimethanol residues and about 70 to about 30 mole percent neopentyl glycol residues.
14. The shaped article of Claim 8 wherein the diol component of the amorphous copolyester consists essentially of about 35 to about 60 mole percent 1,4-cyclohexanedimethanol residues and about 40 to about 65 mole percent neopentyl glycol residues.
15. The shaped article of Claim 14 wherein the diacid component consists essentially of at least 95 mole percent terephthalic acid residues.

16. The shaped article of Claim 14 wherein the diacid component consists essentially of 100 mole percent terephthalic acid.
17. The shaped article of Claim 8 which is transparent medical device.
18. The medical device of Claim 17 which is in the shape of a tube.
19. The medical device of Claim 17 which is in the shape of a connector.
20. The medical device of Claim 17 which is in the shape of a pump housing.
21. A medical article for contacting solutions containing lipids, the article fabricated from an amorphous copolyester having an inherent viscosity (IV) of at least about 0.5 dL/g measured at a temperature of 25°C at 0.5 g/dL concentration in a solvent mixture of symmetric tetrachloroethane and phenol having a weight ratio of symmetric tetrachloroethane to phenol of 2:3 comprising:
 - (1) a diacid component comprising about 90 to 100 mole percent terephthalic acid residues and 0 to about 10 mole percent isophthalic acid residues; and
 - (2) a diol component comprising about 10 to about 70 mole percent 1,4-cyclohexanedimethanol residues and about 90 to about 30 mole percent neopentyl glycol residues;wherein the amorphous copolyesters comprises 100 mole percent diacid component and 100 mole percent diol component.
22. The medical article of Claim 21 wherein the diacid component (1) consists essentially of about 90 to 100 mole percent terephthalic acid residues and 0 to about 10 mole percent isophthalic acid residues; and the diol component (2) consists essentially of about 10 to about 70 mole percent 1,4-cyclohexanedimethanol residues and about 90 to about 30 mole percent neopentyl glycol residues.

23. The medical article of Claim 21 wherein the diacid component consists essentially of at least 95 mole percent terephthalic acid residues.

24. The medical article of Claim 21 wherein the diacid component consists essentially of 100 mole percent terephthalic acid residues.

25. A medical article for contacting solutions containing lipids, the article fabricated from an amorphous copolyester having an inherent viscosity (IV) of about 0.6 to 1.1 dL/g measured at a temperature of 25°C at 0.5 g/dL concentration in a solvent mixture of symmetric tetrachloroethane and phenol having a weight ratio of symmetric tetrachloroethane to phenol of 2:3 comprising:

- (1) a diacid component consisting essentially of terephthalic acid residues; and
- (2) a diol component consisting essentially of about 30 to about 70 mole percent 1,4-cyclohexanedimethanol residues and about 70 to about 30 mole percent neopentyl glycol residues;

wherein the amorphous copolyesters comprises 100 mole percent diacid component and 100 mole percent diol component.

26. The medical article of Claim 25 wherein the article is a tube, connector or pump housing.

27. A method of melt processing an amorphous copolyester having a moisture content prior to melt processing of 0.02 weight % or more comprising:

- (a) prior to melt processing, performing a minimal drying or no drying of the copolyester such that the copolyester has a moisture content of 0.02 weight % or more prior to melt processing, and
- (b) melt processing the copolyester,

wherein the copolyester has an inherent viscosity (IV) of at least about 0.5 dL/g

measured at a temperature of 25°C at 0.5 g/dL concentration in a solvent mixture of symmetric tetrachloroethane and phenol having a weight ratio of symmetric tetrachloroethane to phenol of 2:3 and consists essentially of an acid component of residues of at least 90 mole percent terephthalic acid and a diol component consisting essentially of about 30 to about 70 mole percent 1,4-cyclohexanedimethanol residues and about 70 to about 30 mole percent neopentyl glycol residues, based on 100 mole percent acid component and 100 mole percent glycol component.

28. The method of claim 27 wherein the diol component consists essentially of about 30 to less than 70 mole percent 1,4-cyclohexanedimethanol residues and about 70 to about 30 mole percent neopentyl glycol residues.

29. The method of claim 27 wherein the acid component has residues of at least 95 mole percent terephthalic acid.

30. The method of claim 27 wherein the acid component has residues of 100 mole percent terephthalic acid.

31. The method of Claim 27 wherein prior to melt processing, the minimal drying is performed, wherein the minimal drying is by conventional methods for less than 2 hours at 60 to 100°C.

32. The method of Claim 27 wherein prior to melt processing, the minimal drying is performed, wherein the minimal drying uses a desiccant bed with forced dehumidified air at 60°C to 100°C.

33. The method of Claim 27 wherein no drying of the copolyester is performed prior to melt processing.

34. A profile produced by profile extrusion comprising the amorphous copolyester of Claim 2.
35. An injection molded article comprising the amorphous copolyester of Claim 2.